

### Part 3

1.7: List 4 significant differences between a file processing system and a DBMS.

- 1.) Accessing Data is a lot easier with DBMS's because of query based operations. Whereas Reading data in File processing requires programs to be written to read data.
- 2.) File processing can be inconsistent when some information is stored in two places and is changed in one but not the other. Where in DBMS's have arrows (pointers) to the data they need to use allowing for less inconsistency.
- 3.) Security problems. File processing would have to have some way of hiding files or locking them from those that should not be able to access it, whereas in DBMS's, the User will see only data that is relevant to what they need.
- 4.) With file processing, it is harder to deal w/ concurrent-access.

### Part 4

1.8: Explain the concept of physical data independence and its importance in database systems.

- a.) Physical Data Independence allows users of the DBMS to not have to worry about how the data is physically stored in the physical level. This is important because it allows users to input data and retrieve data with minimal effort whereas in the classic and antiquated file processing system, the user needs to follow a set structure when inserting data and retrieving data.

### Part 5

1.11: Assume that two students are trying to register for a course in which there is only one open seat. What component of a database system prevents both students from being given that last seat?

- a.) The storage manager is responsible for this. As far as the component of the storage manager, I would say the transaction manager.

